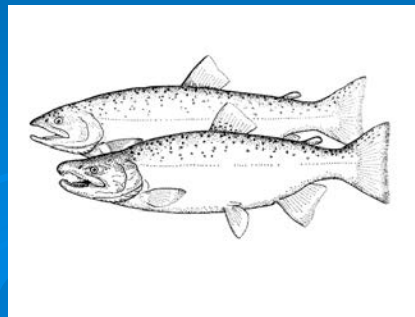


# Yakima Side Channels Project

*Protection and Enhancement of Priority  
Flood Plain Habitat*

Kelly Larimer  
YKFP Habitat Biologist

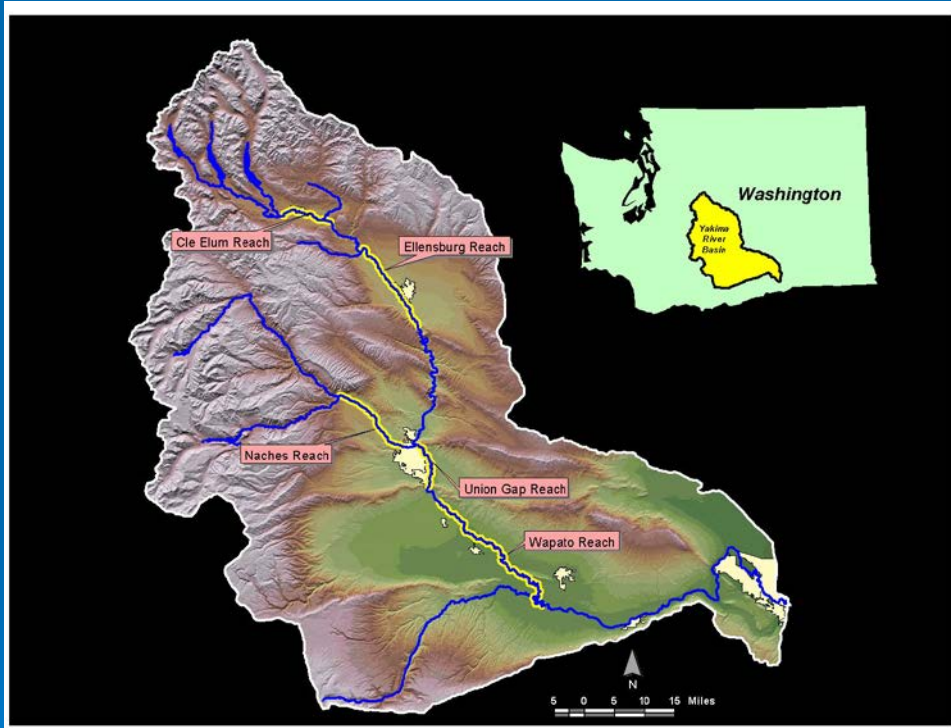


Project: 1997-051-00

# Yakima Side Channels

- The Yakima Side Channels (YSC) Project was initiated in '97 and is co-managed by WDFW and the Yakama Nation as part of the Yakima-Klickitat Fisheries Project (YKFP).

- The project's aims to protect high value flood plain containing healthy and functional side channel, wetland, and riparian forest habitats.



Priority Reaches –Easton/Cle Elum, Kittitas, Naches, Union Gap, & Lower Naches

# The Bigger Picture

## Past Landscape



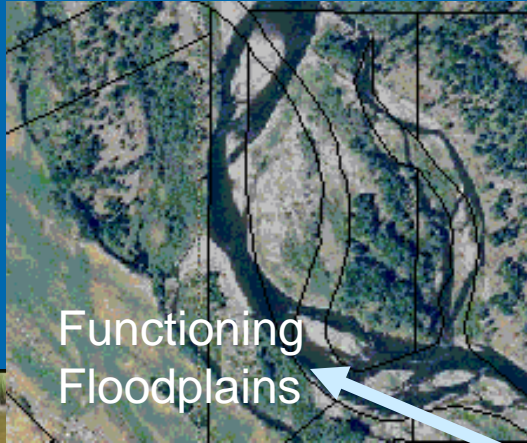
## Current Situation



# The Bigger Picture

## Past Landscape

## Current Situation



# YSC Acquisition Criteria



- We follow a directed approach:
  - willing seller
  - high value habitat quality and quantity
  - prime spawning and/or rearing habitat
  - critical habitat for listed Mid-Columbia steelhead
- Preference to properties that have a water right, and/or are adjacent to protected lands.

# YSC Project Success



Scatter Creek Side Channel near  
Cle Elum.

- **Protected ~976 acres** of high value habitats in five priority reaches.
- YSC has generated over **\$1.5 million** in matching, non-BPA funds for habitat acquisitions.
- Partnered on several restoration projects (e.g., Hanson Ponds, Holmes).

# YSC Project Status



Dixon Property near  
Cle Elum

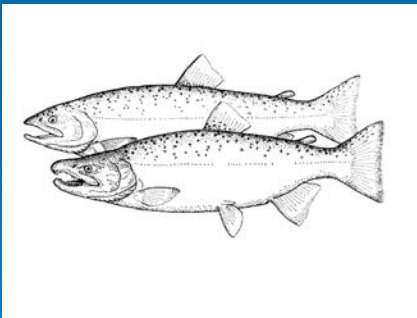
- **Phase 1 Goal:** Protect a total of 2,000 acres of the most productive mainstem and side channels by 2009 (1,024 acres to go).
- Complete feasibility studies and restoration activities on key floodplain reaches.

# Acquisition Update

## What we aim to protect by 2009

### Priority Flood Plains:

- Easton
- Cle Elum
- Lower Naches

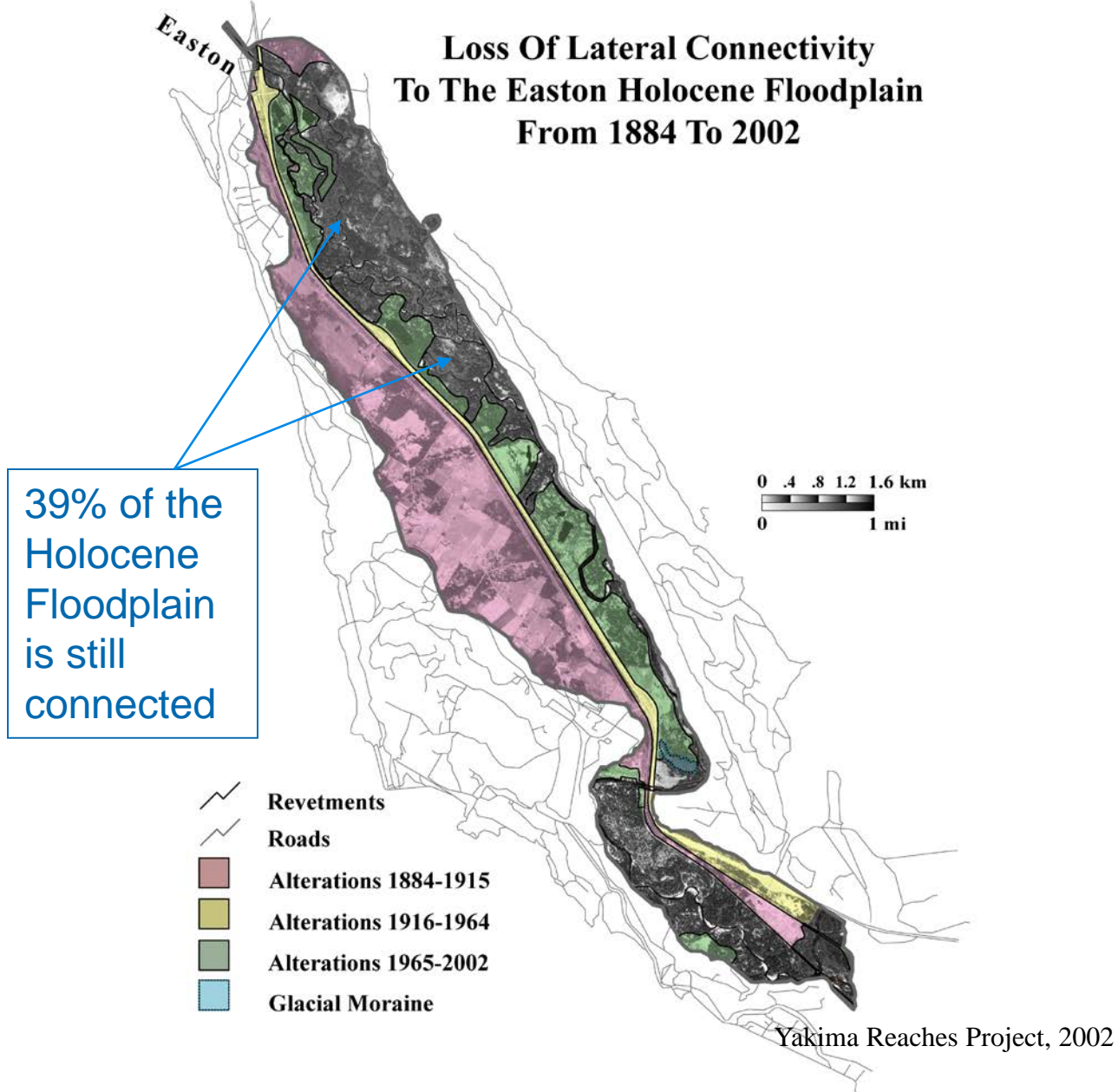




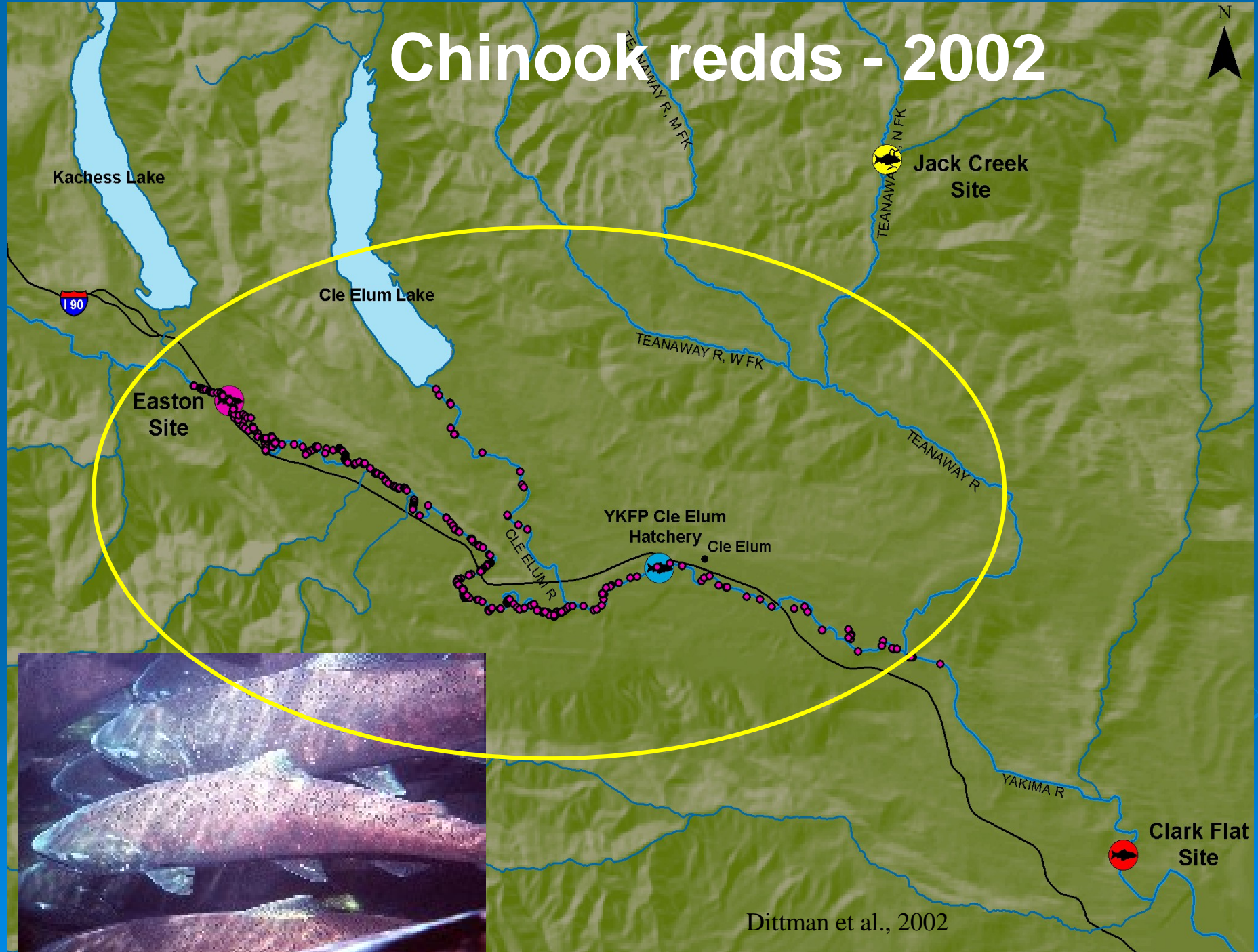


# Easton Flood Plain

## Loss Of Lateral Connectivity To The Easton Holocene Floodplain From 1884 To 2002

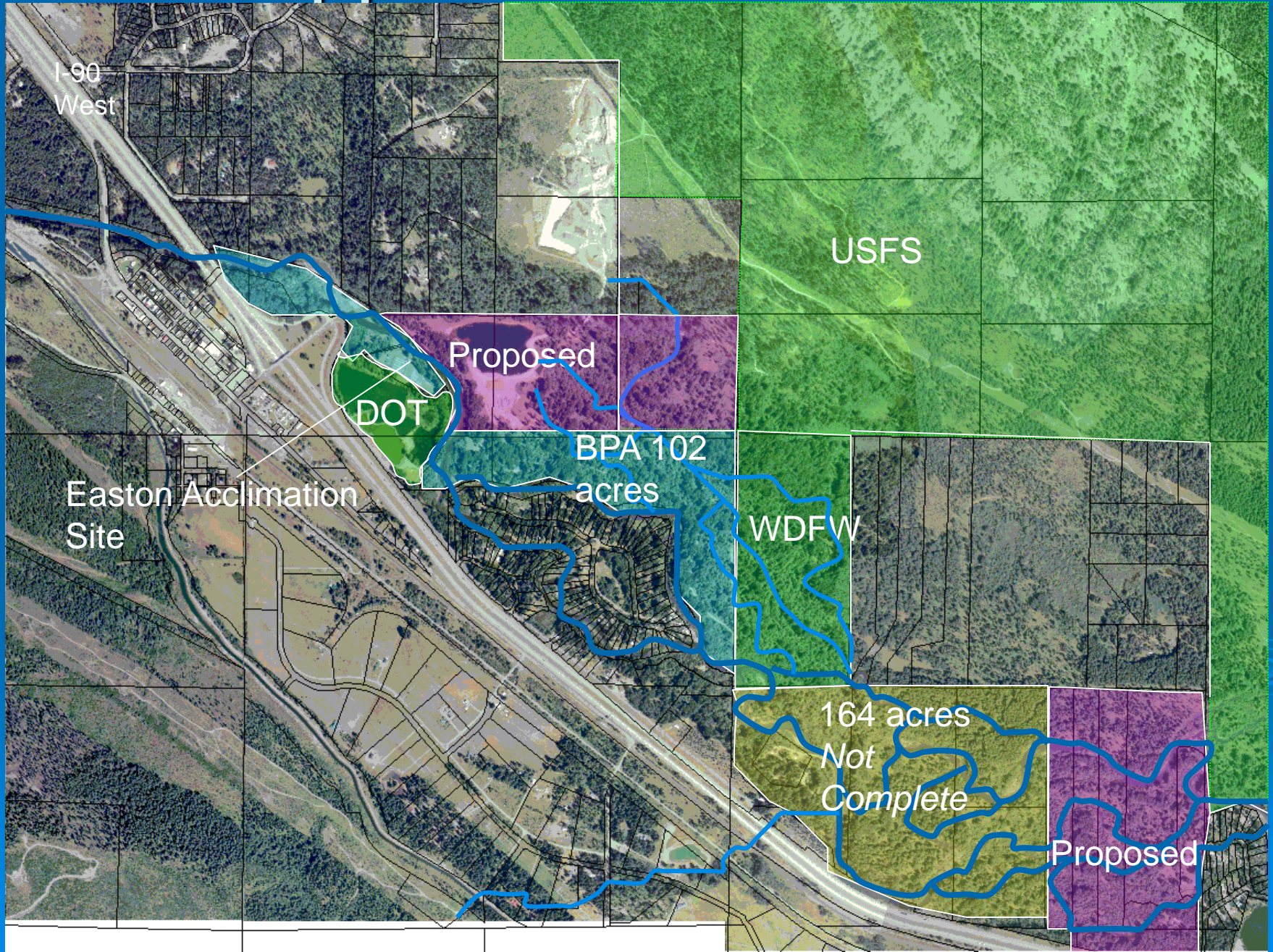


# Chinook redds - 2002



Dittman et al., 2002

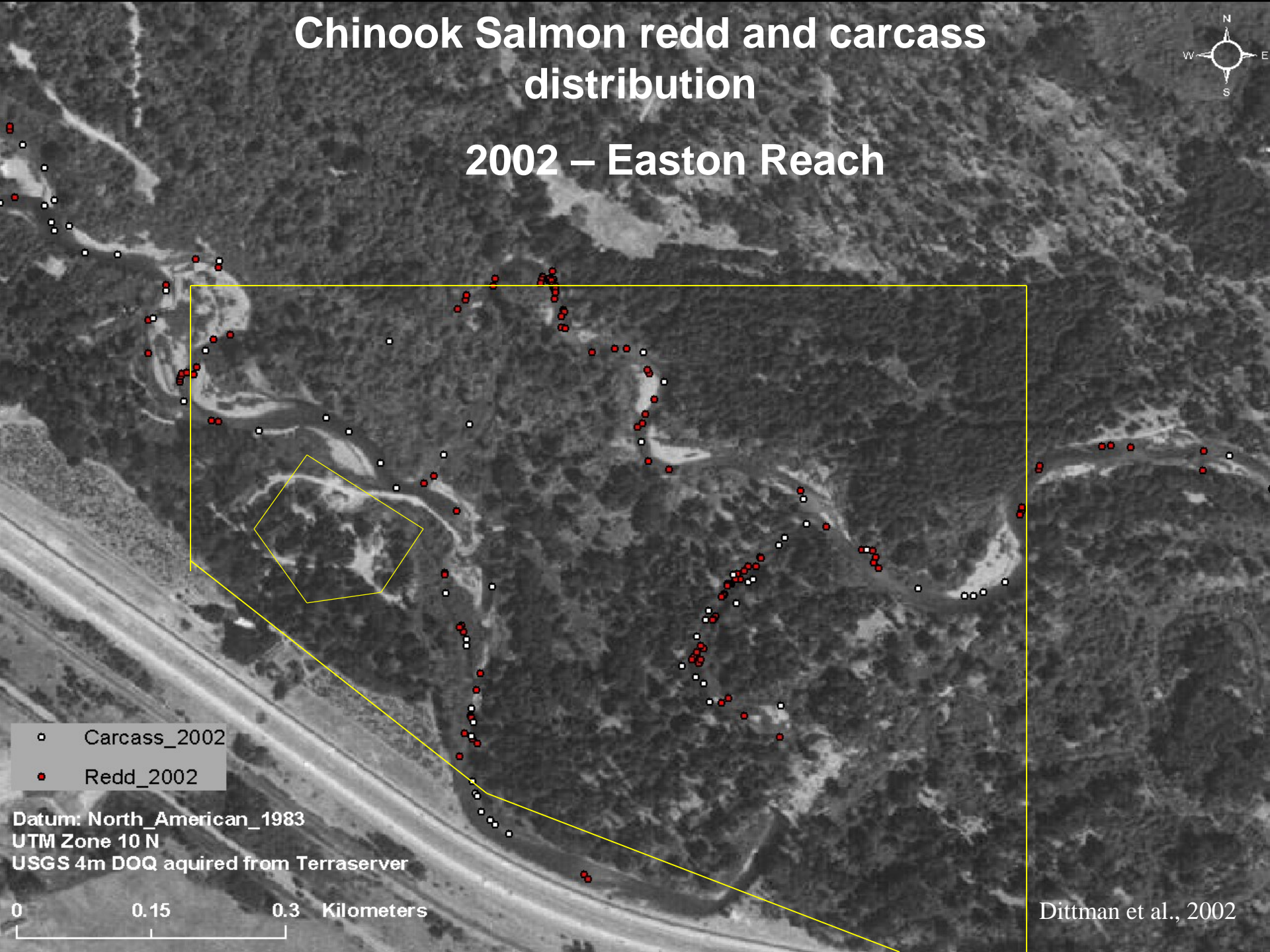
# Upper Easton Reach



# Chinook Salmon redd and carcass distribution



## 2002 – Easton Reach



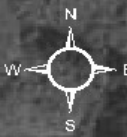
- ◻ Carcass\_2002
- Redd\_2002

Datum: North\_American\_1983  
UTM Zone 10 N  
USGS 4m DOQ aquired from Terraserver

0 0.15 0.3 Kilometers

Dittman et al., 2002

# Chinook Salmon redd and carcass distribution



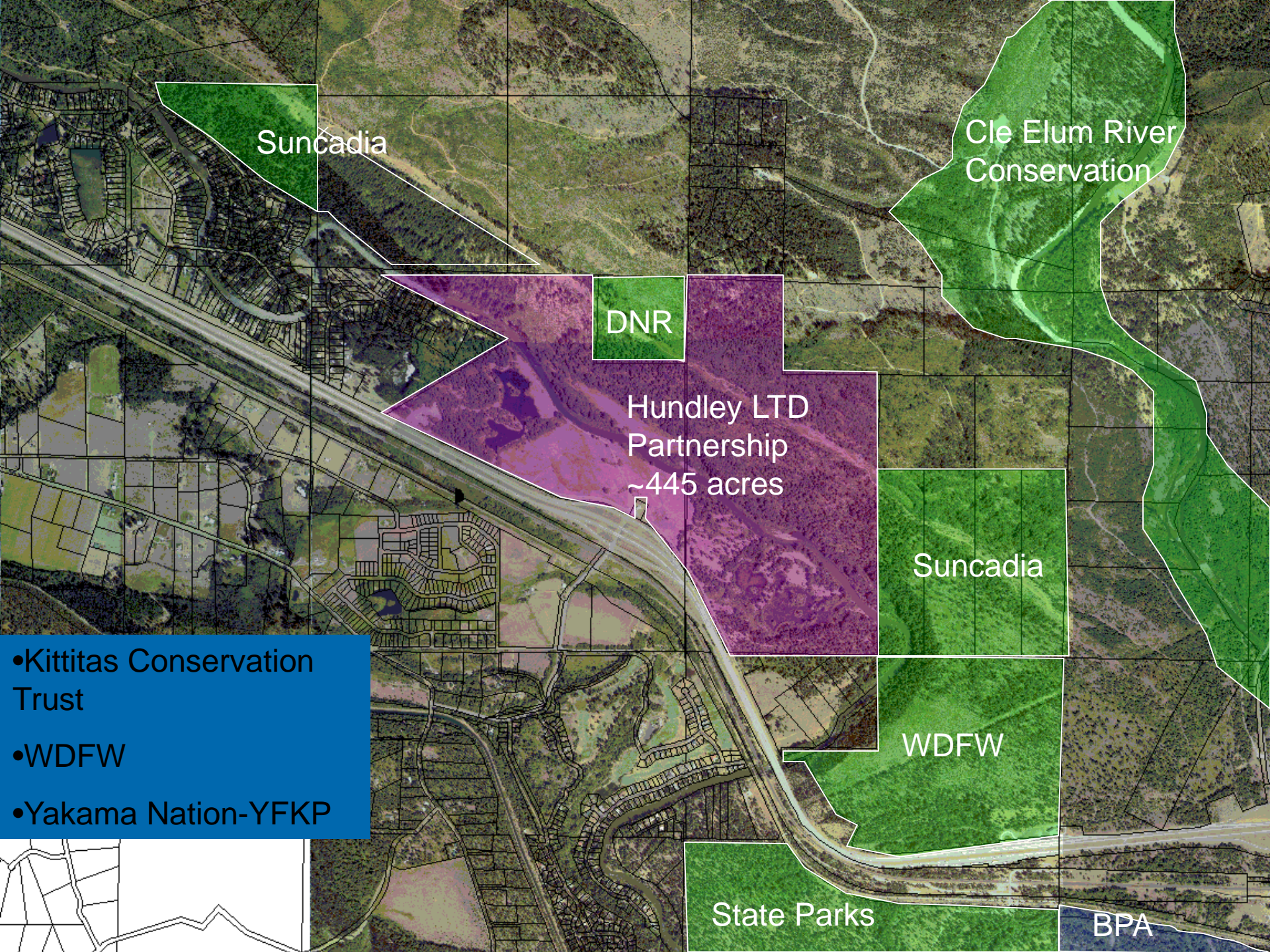
## 2002 – Easton Reach



- Carcass\_2002
- Redd\_2002

Datum: North\_American\_1983  
UTM Zone 10 N  
USGS 4m DOQ aquired from Terraserver

0 0.15 0.3 Kilometers



Suncadia

Cle Elum River Conservation

DNR

Hundley LTD Partnership  
~445 acres

Suncadia

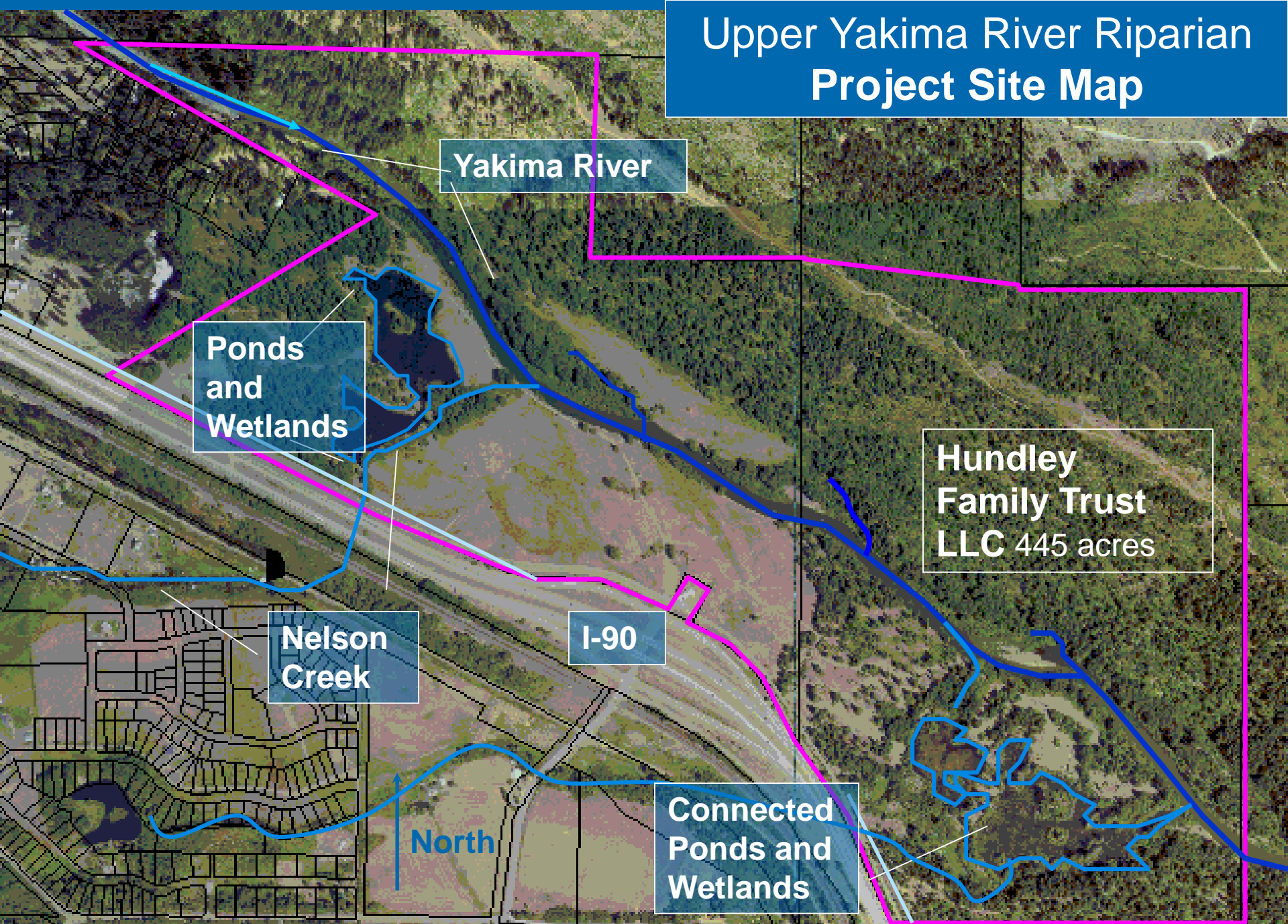
WDFW

State Parks

BPA

- Kittitas Conservation Trust
- WDFW
- Yakama Nation-YFKP

# Upper Yakima River Riparian Project Site Map



Yakima River

Ponds and Wetlands

Nelson Creek

I-90

North

Connected Ponds and Wetlands

Hundley Family Trust LLC 445 acres

\* Utilized by Spring Chinook



# Upper Yakima River Riparian Immediate Actions

**Coho -Spring  
Acclimation  
Pond**

**Add outlet**

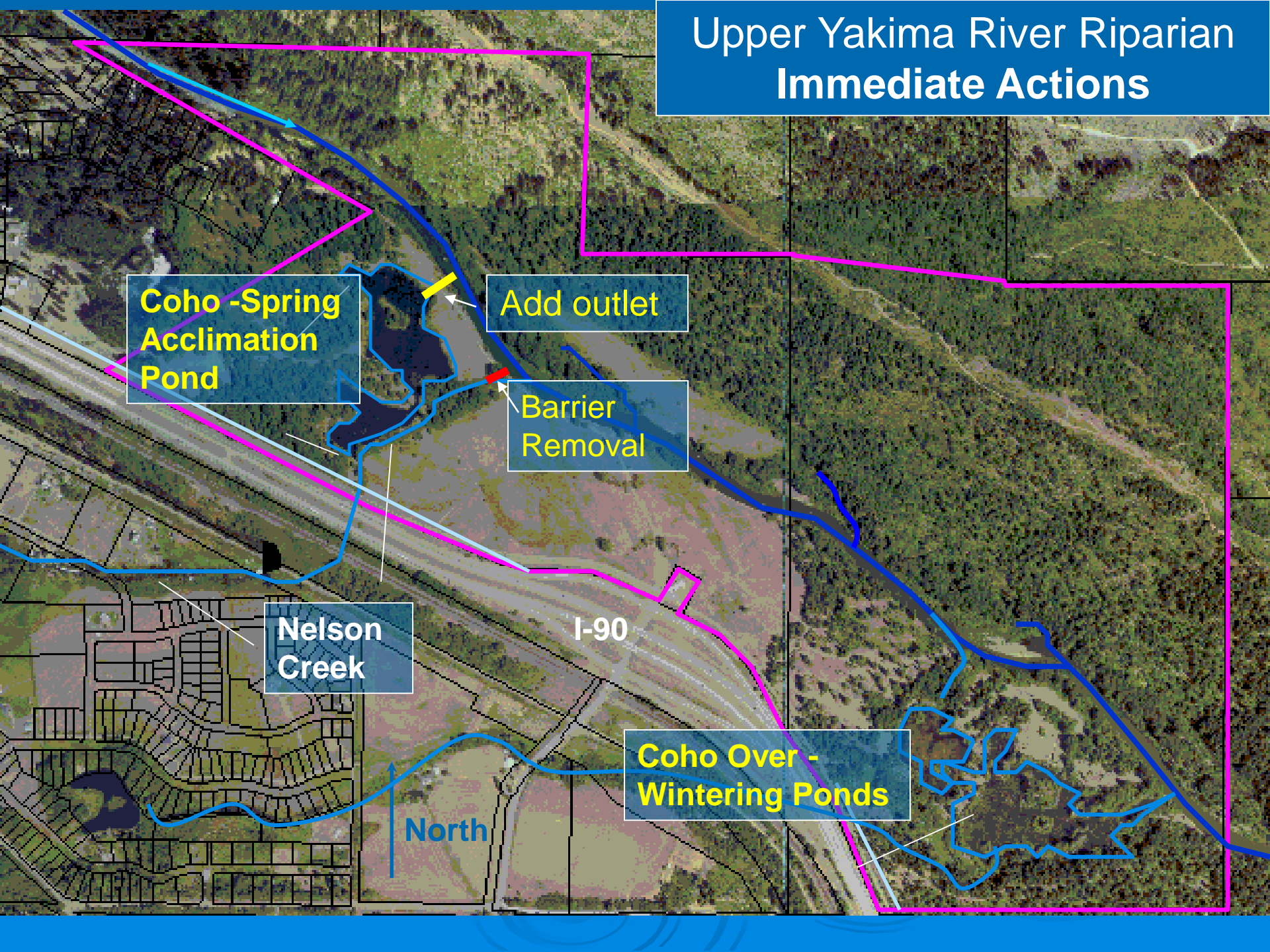
**Barrier  
Removal**

**Nelson  
Creek**

I-90

**Coho Over -  
Wintering Ponds**

North



# Future Restoration Actions



Remove rip-rap and re-vegetate



Nelson Creek confluence - Barrier



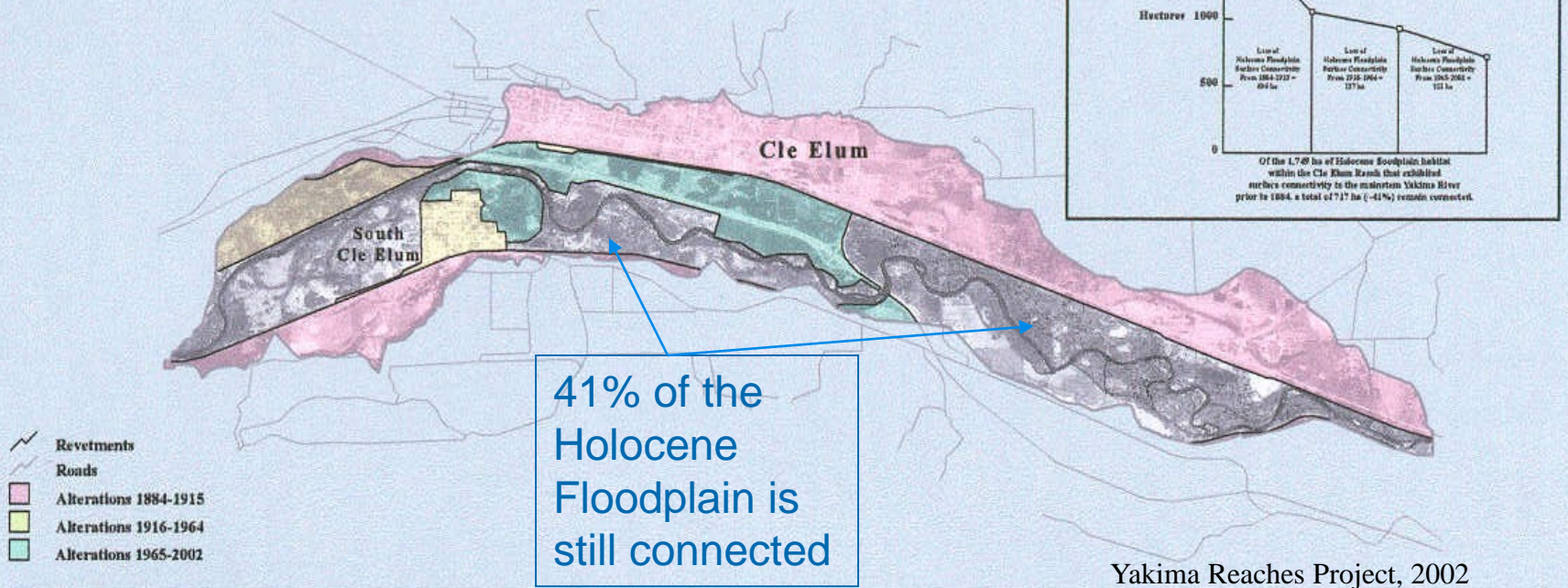
Improve connection to river



Large Woody Debris placement

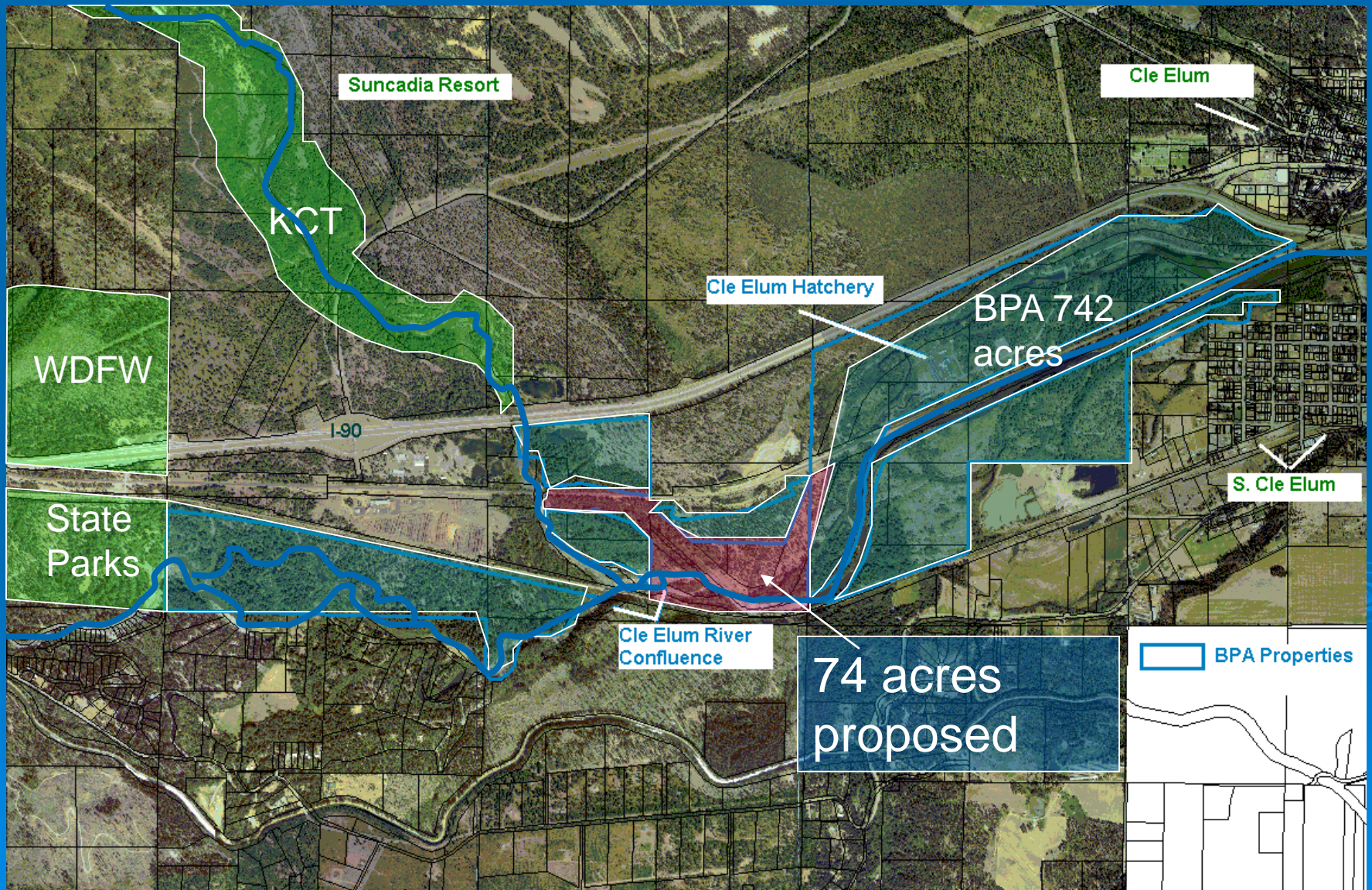
# Cle Elum Flood Plain Reach

## Loss of Lateral Connectivity To The Cle Elum Holocene Floodplain From 1884 To 2002

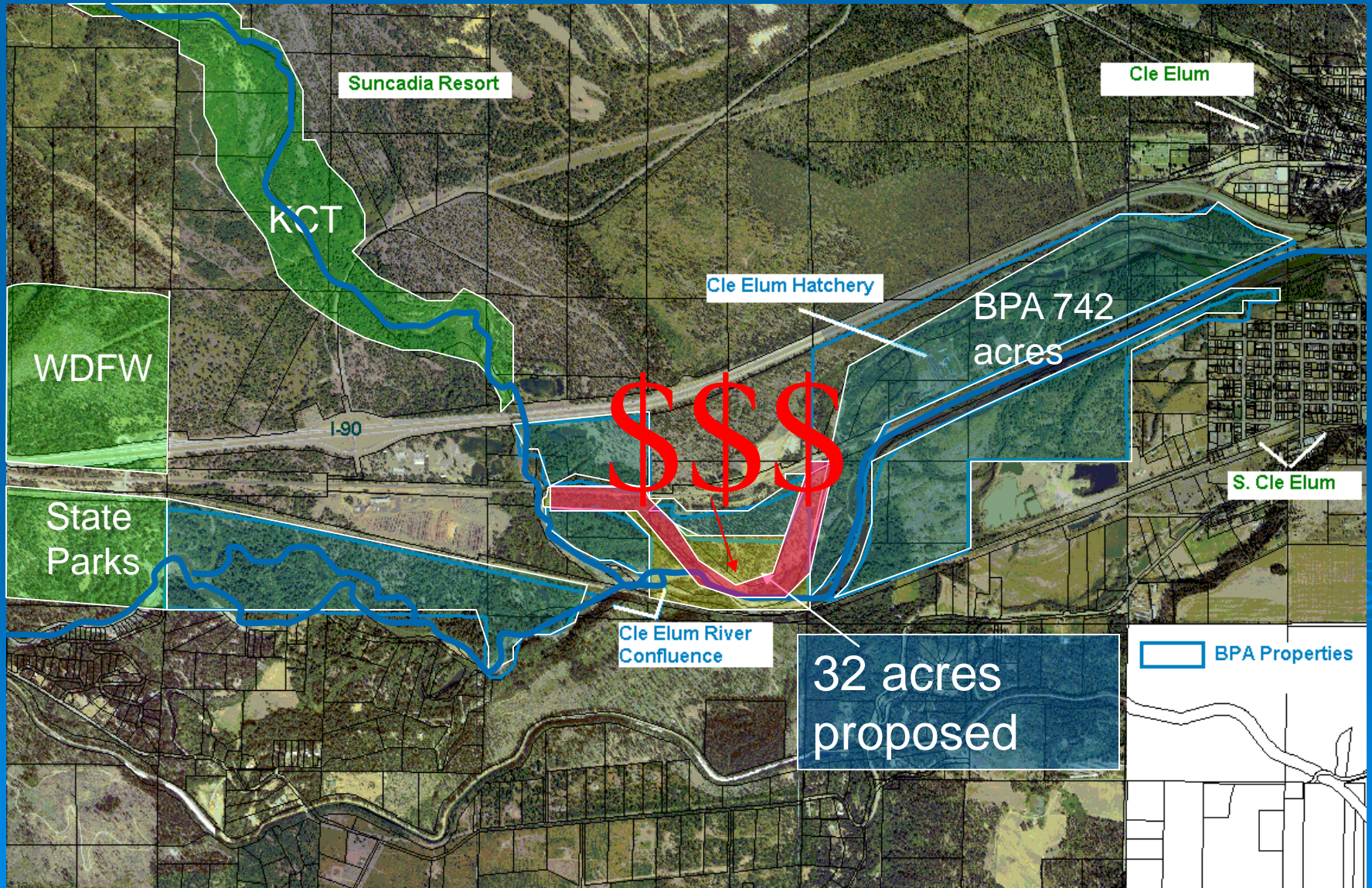


Yakima Reaches Project, 2002

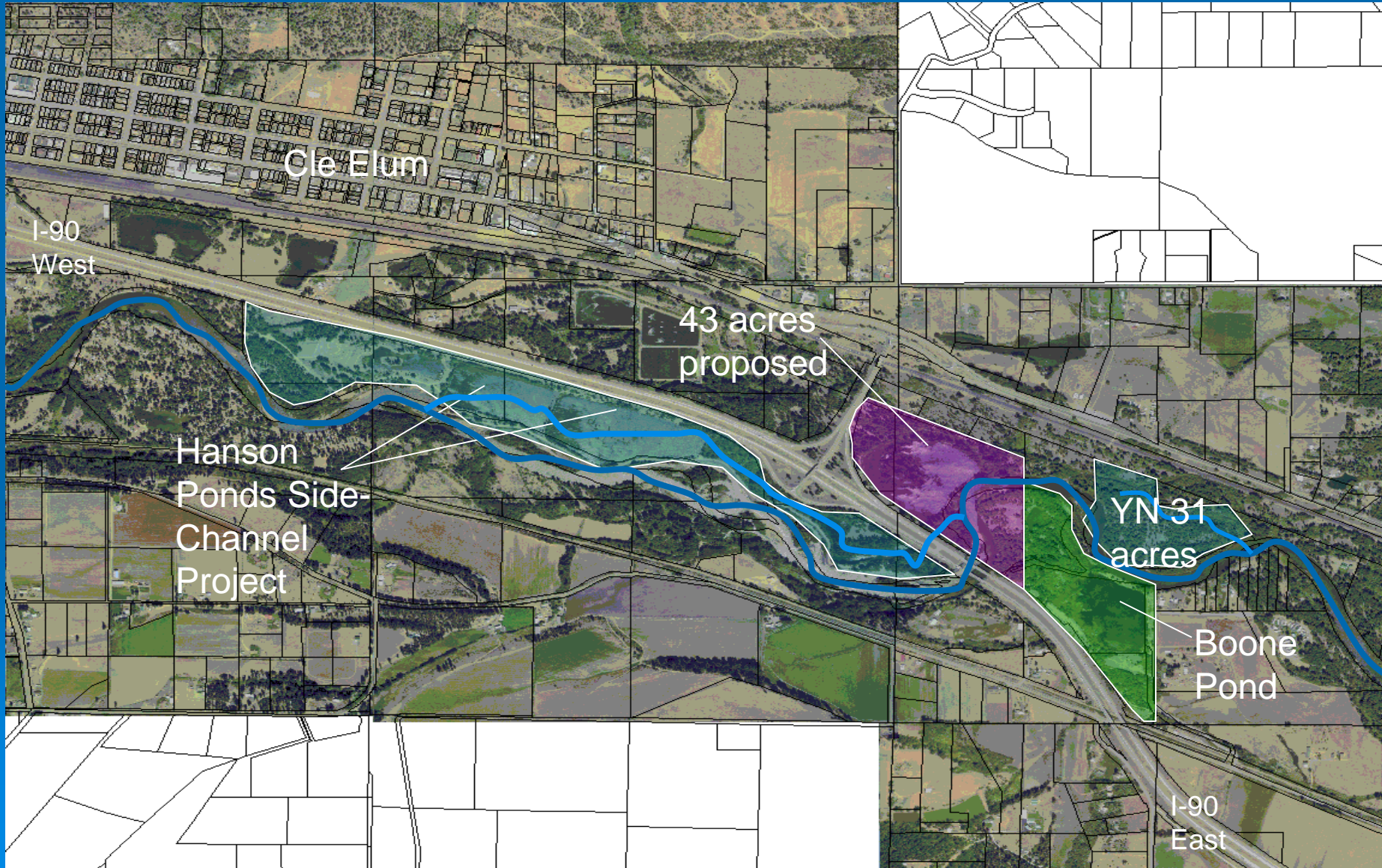
# Cle Elum Reach Properties



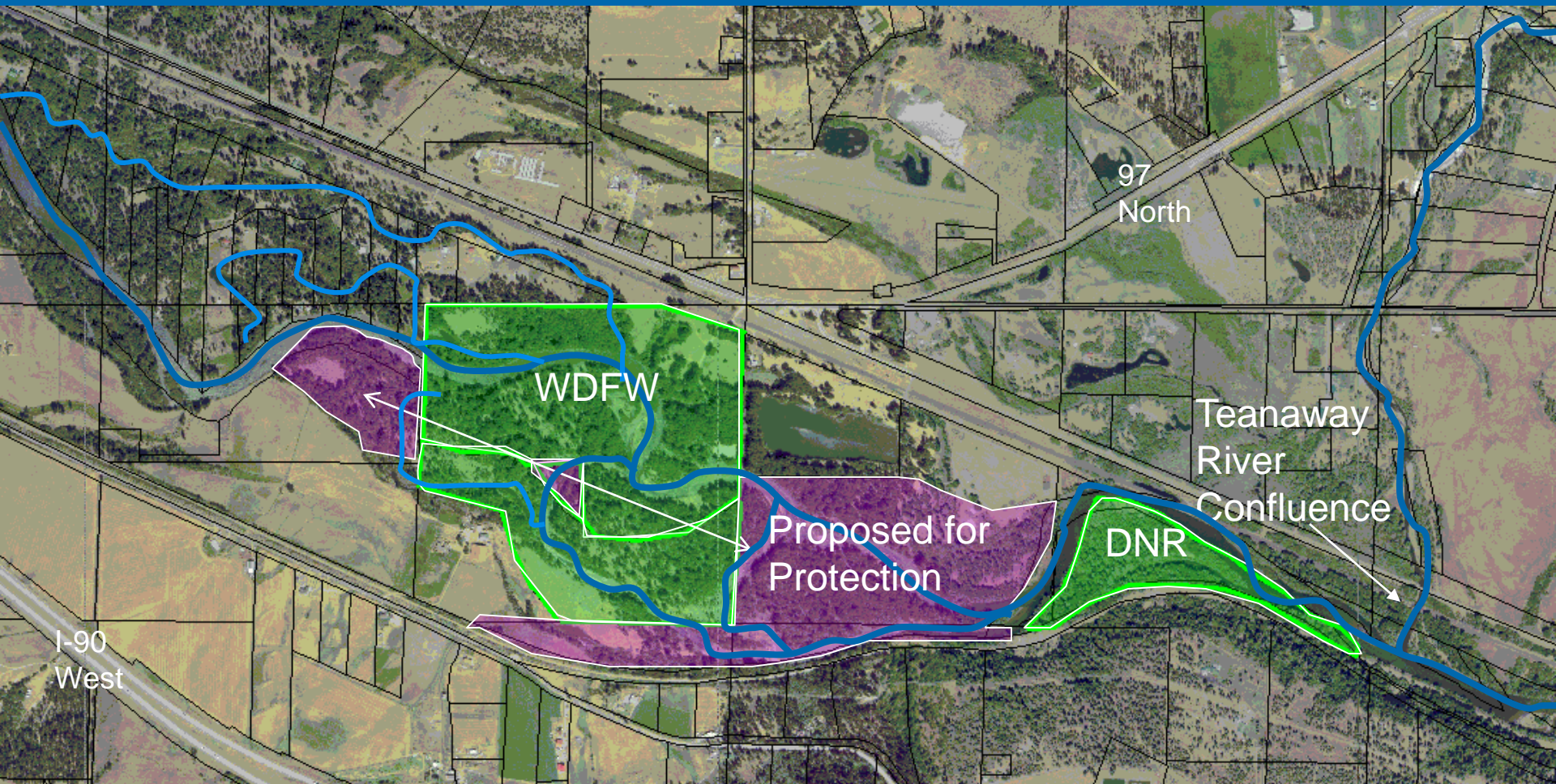
# Cle Elum Reach Properties



# Cle Elum Reach Properties cont.

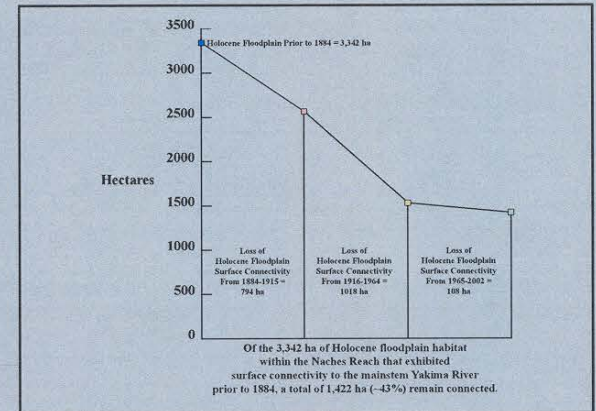
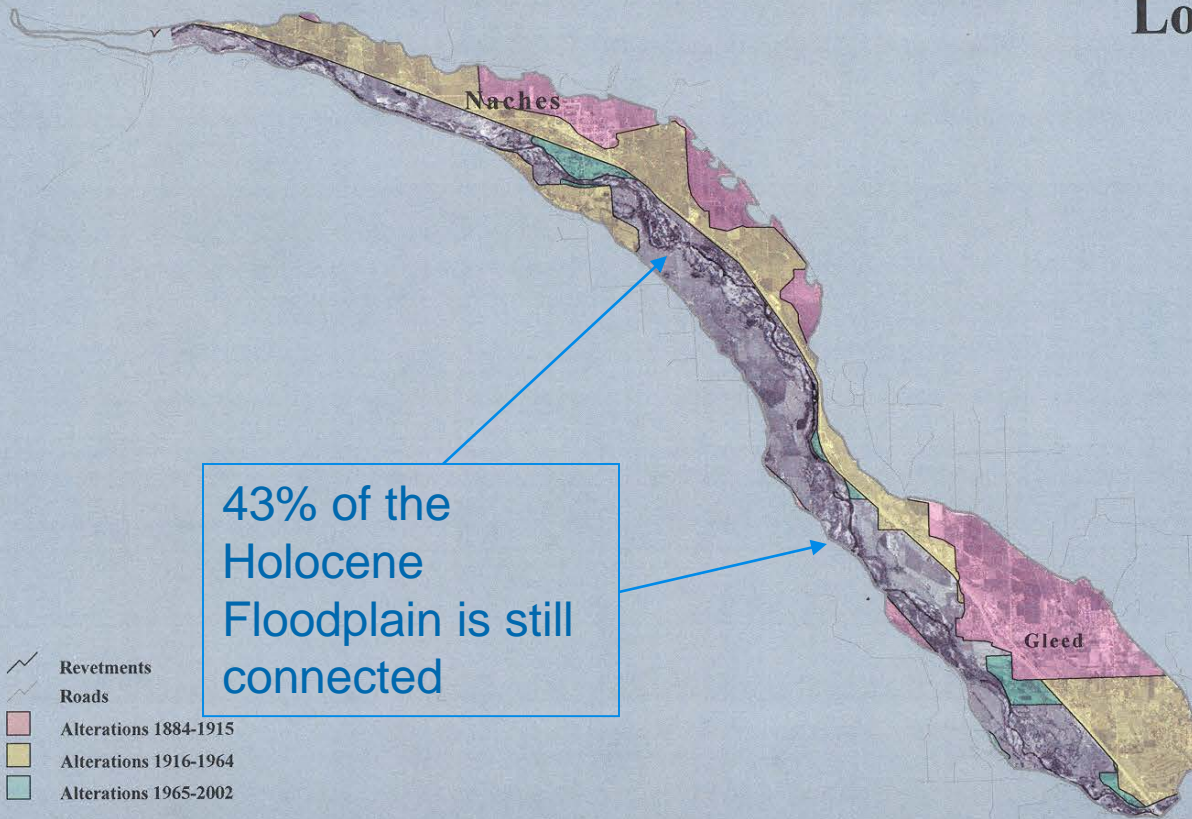


# Lower Cle Elum Reach



# Lower Naches Flood Plain

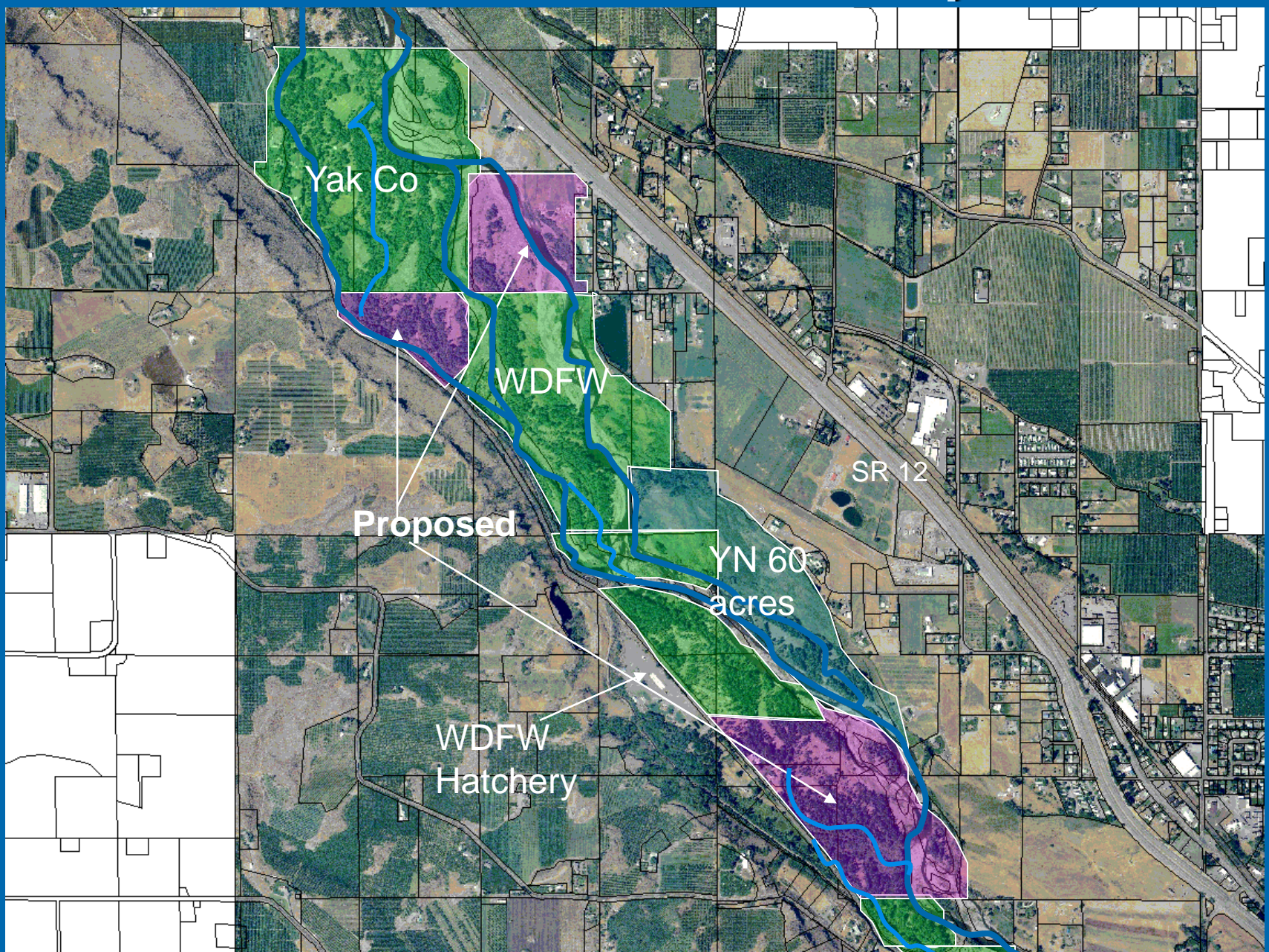
## Loss Of Lateral Connectivity To The Naches Holocene Floodplain From 1884 To 2002



Yakima Reaches Project, 2002



# Lower Naches Floodplain



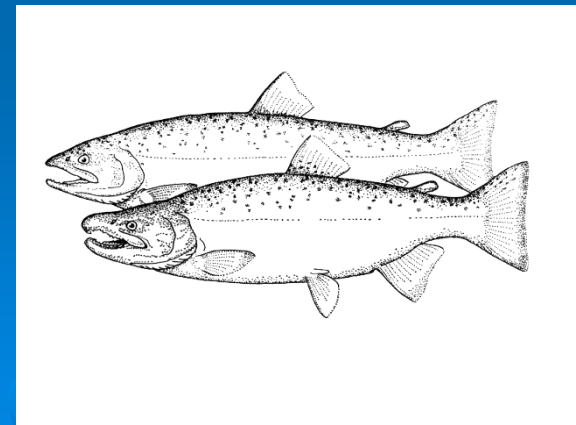
# Holmes Restoration Phase I -2006

## ➤ Funding:

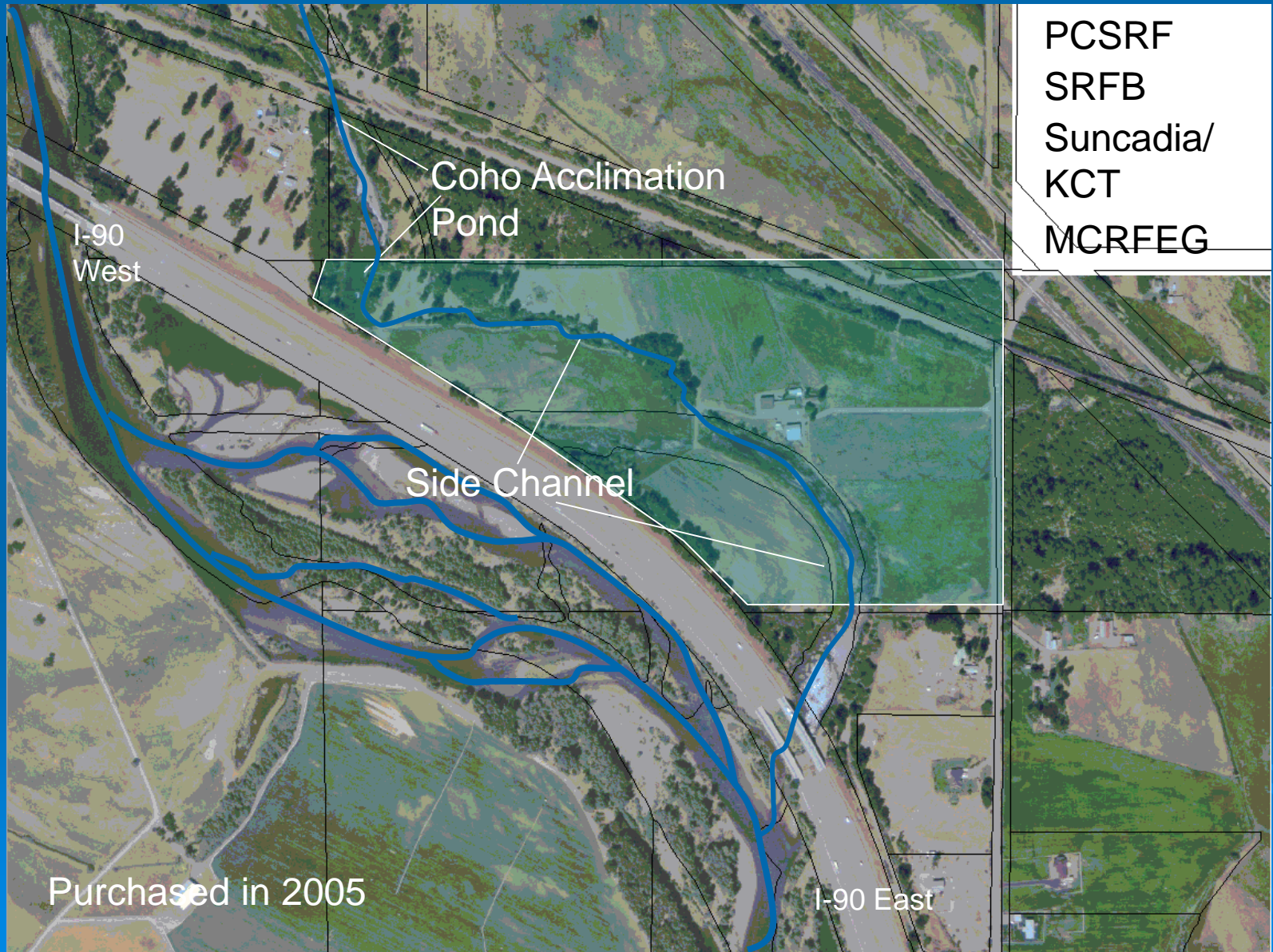
- Community Salmon Fund Grant
- Mid-Columbia Regional Fisheries Enhancement Group

## ➤ Phase I Work Elements:

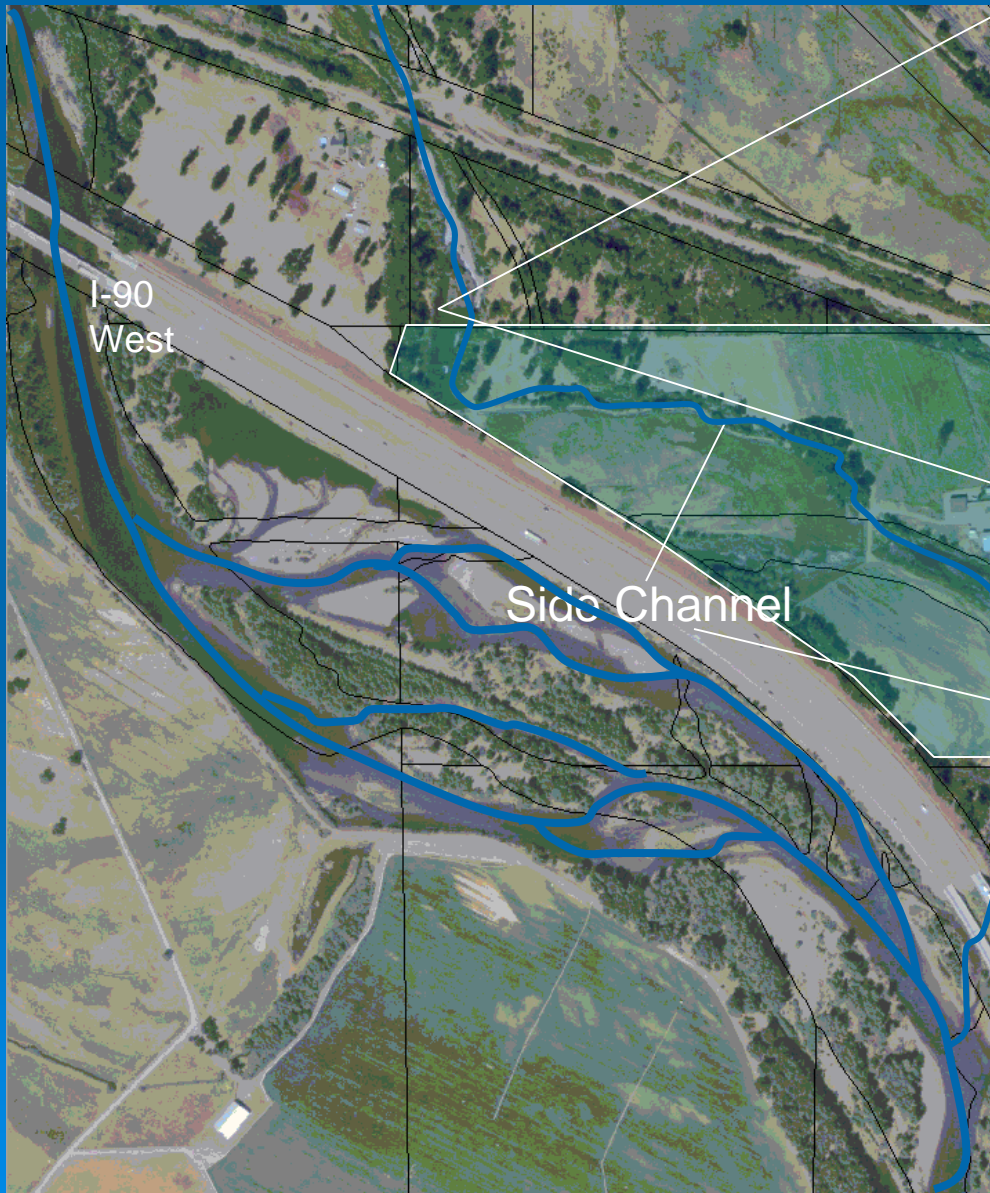
- Fish By-Pass
- Road Decommission
- Riparian Planting
- In stream Restoration



# Holmes Property



# Holmes Property



- Habitat
- Acclimation
- Hatchery

# Holmes Fish Bypass

-  Tax Lots
- Cities**
-  Ellensburg
-  Kittitas
-  Roslyn
-  Cle Elum
-  South Cle Elum
-  Fish Bypass Headworks/ Outlets
-  Bypass Piping  
1431 Liner Feet

Spawning Reach

This map is maintained only as an aid in the appraisal and assessment of real property. The Kittitas County Assessors Office does not warrant its accuracy.



1" = 325 feet



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This map was derived from several databases. The County cannot accept responsibility for any errors. Therefore, there are no warranties for this product.

In-Kind Work - YN



Fish Screen  
Removed-Knife  
Gate added for  
Coho By Pass  
System



Fish By Pass-  
from the  
acclimation pond  
to below the  
spawning reach





# Holmes NFWF Roads


Tax Lots

Cities

-  Elkburg
-  Kittitas
-  Roslyn
-  Ck Elm
-  South Ck Elm

 New Road Alignment  
1607 Linear Feet

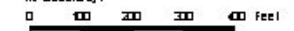
 Road Decommission  
1305 Linear Feet

 Road Decommission  
1307 Linear Feet

Coho Acclimation Pond

Spawning Reach

This map is maintained only as an aid in the appraisal and assessment of real property. The Kittitas County Assessors Office does not warrant its accuracy.



1" = 325 feet

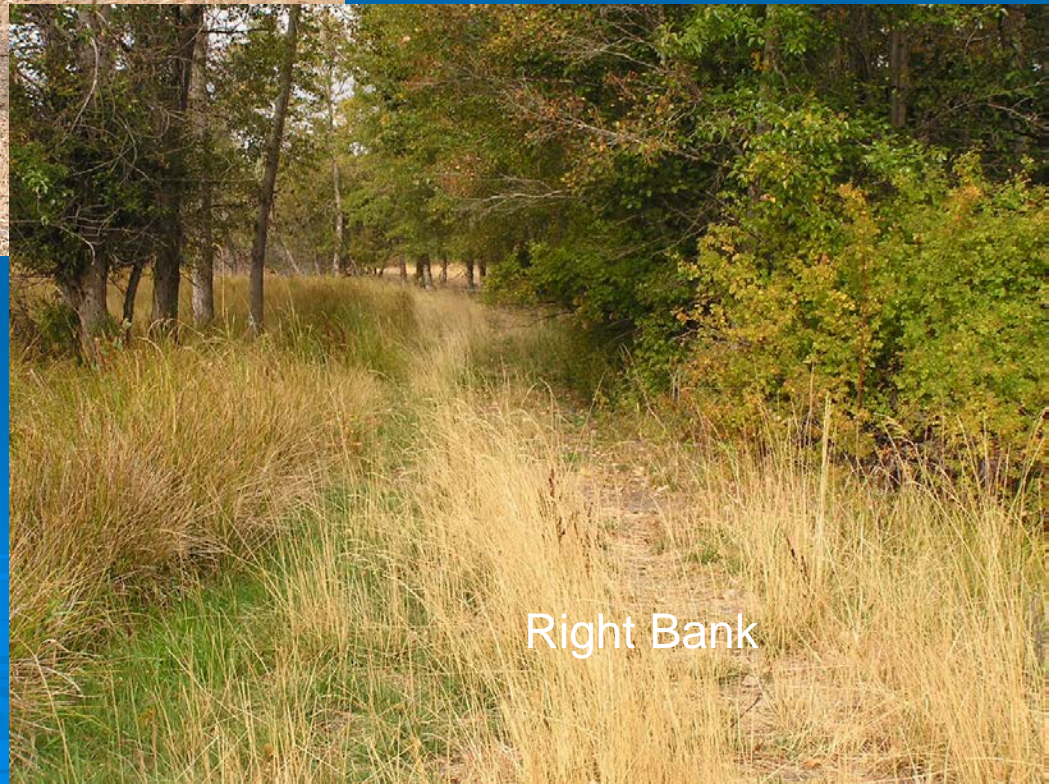


Copyright (C) 2005 Kittitas County  
This map was derived from several databases. The County cannot accept responsibility for any errors. Therefore, there are no warranties for this product.



Left Bank

# Two Roads Straddled the Riparian Gallery



Right Bank





Road and Shoreline  
Ripping for Planting

Holmes Property

**Phase I**  
~3,000 ft of  
shoreline  
planted

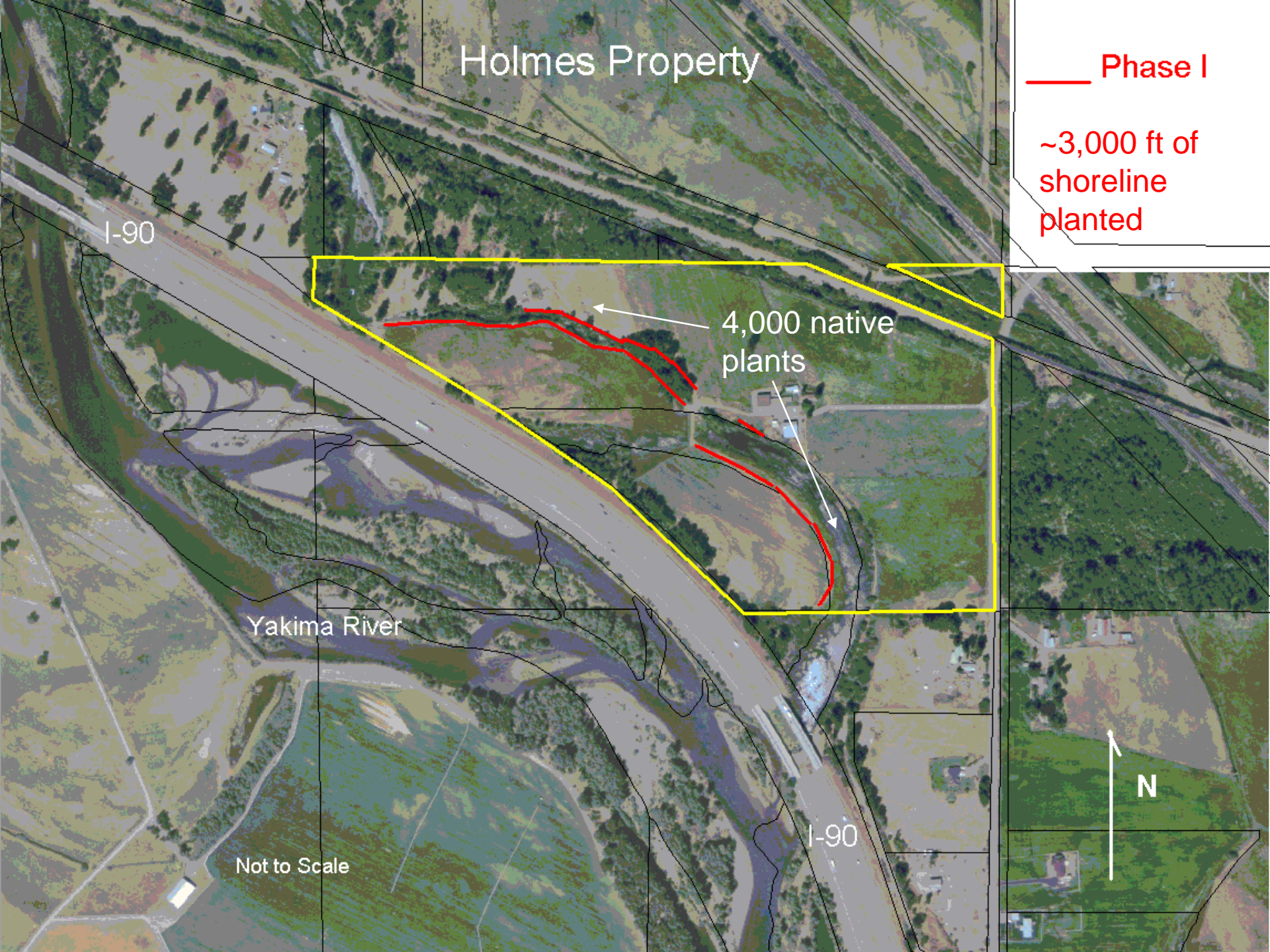
I-90

4,000 native  
plants

Yakima River

Not to Scale

I-90



# Extensive Micro-Irrigation System Installed

Fish By-Pass Pipe



# Community Work Party –April 2006



Partnered with Cascade Land Conservancy

>60 Volunteers!

# AmeriCorps Crews Bat Clean Up



# In-stream Enhancement Work



26 8:53PM



Large Woody Debris

# Spawning Gravel

45 yd<sup>3</sup>

8 12:45AM



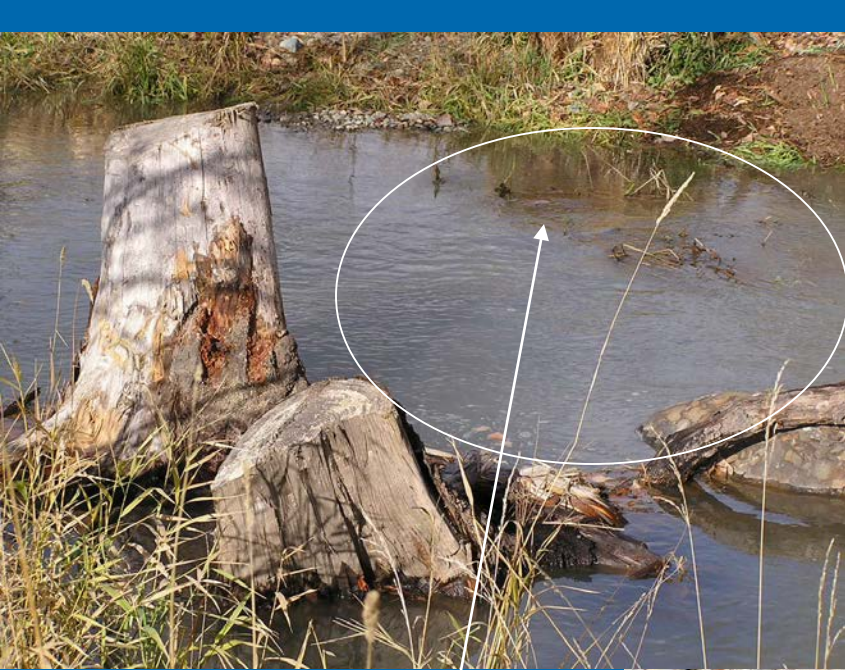


Gravel & Wood has  
Improved Channel  
Complexity &  
Function

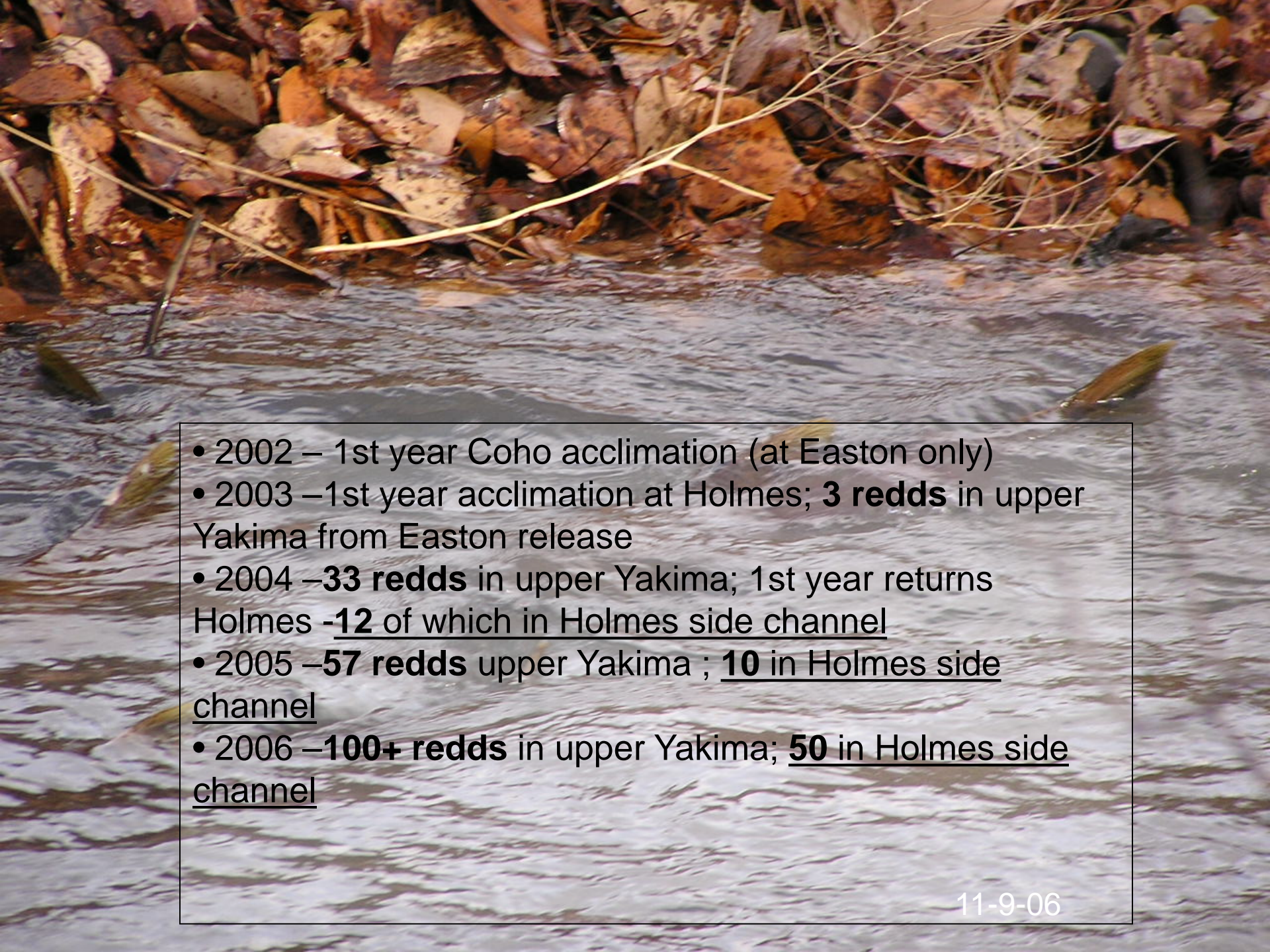
8 12:18AM

The result...





Habitat  
Enhancement  
Works

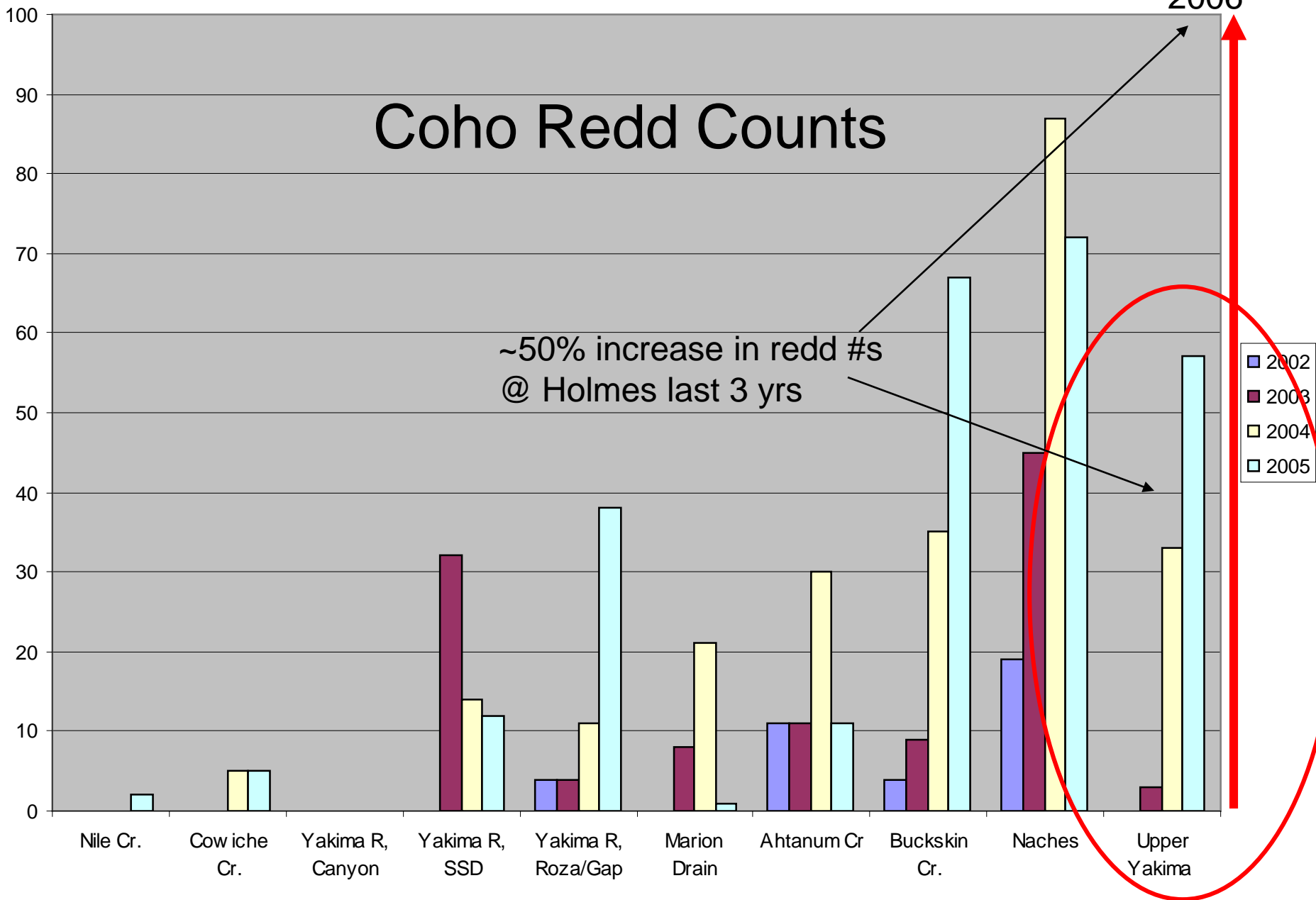
- 
- 2002 – 1st year Coho acclimation (at Easton only)
  - 2003 – 1st year acclimation at Holmes; **3 redds** in upper Yakima from Easton release
  - 2004 – **33 redds** in upper Yakima; 1st year returns Holmes **-12** of which in Holmes side channel
  - 2005 – **57 redds** upper Yakima ; **10** in Holmes side channel
  - 2006 – **100+ redds** in upper Yakima; **50** in Holmes side channel

# Coho Redd Counts

2006

~50% increase in redd #s  
@ Holmes last 3 yrs

- 2002
- 2003
- 2004
- 2005



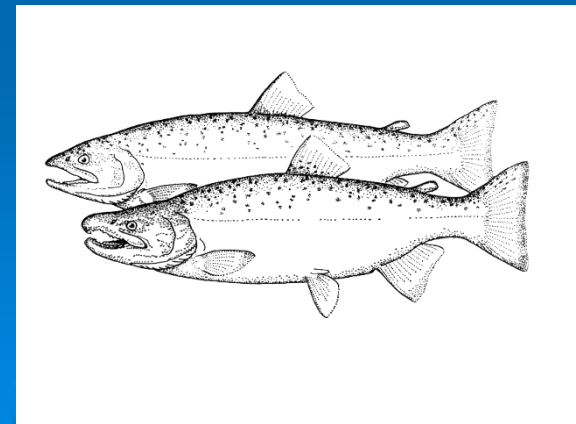
# Holmes Restoration Phase II -2007

## ➤ Funding:

- Mid-Columbia Regional Fisheries Enhancement Group
- Community Salmon Fund -Kittitas Cons. Trust

## ➤ Phase II Work Elements:

- Riparian planting/restoration
- In stream restoration
- Pond outlet-fish passage improvements



Holmes Property

# Riparian Restoration –Phase II

— Phase I  
— Phase II

I-90

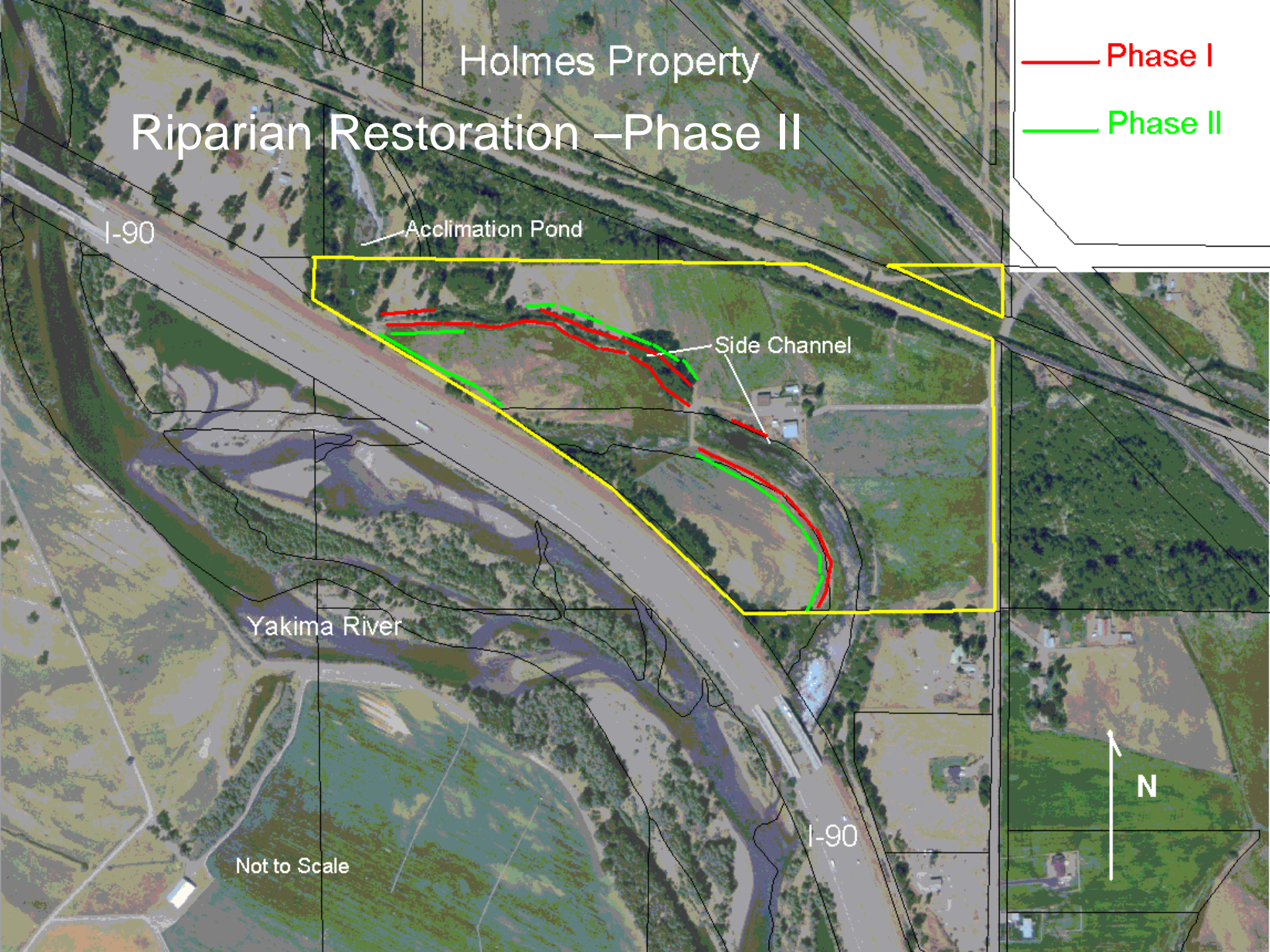
Acclimation Pond

Side Channel

Yakima River

I-90

Not to Scale





# Riparian Restoration

## 2007

# Site Preparation







## Ponderosa Pine Gallery 2007





# Salmon in the Classroom 2007



Oil  
slick  
Henry



# Irrigation System Improvements



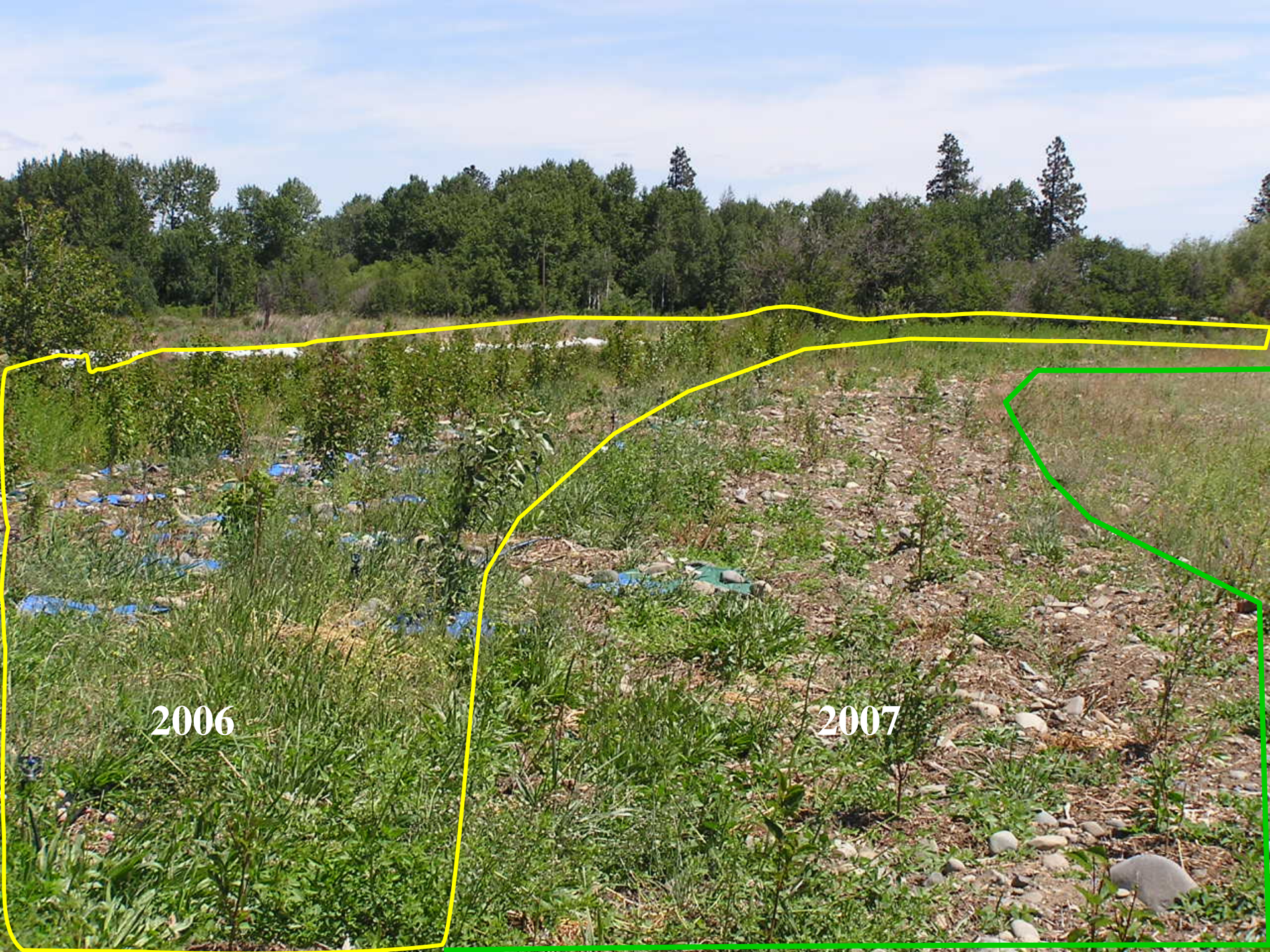
Before

2005



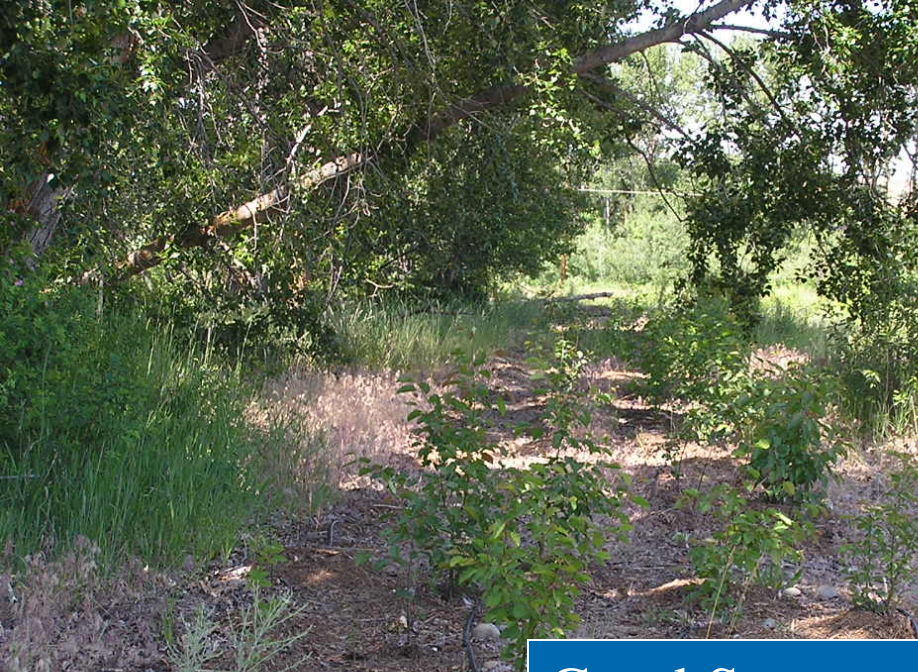
2006

After



2006

2007



Good Success -High Maintenance





More LWD



8/12/34AM



More Spawning  
Gravel

8/1/35AM



Mid Columbia Regional Fisheries Group



Fix Pond Outlet-Head  
Works & Juvenile  
Fish Barrier – Fall  
2007

# Project Partners -Support

- Kittitas Conservation Trust (Sponsor)
- Yakama Nation –YKFP
- Washington State Department of Fish & Wildlife
- Ellensburg School District
- Cascade Land Conservancy
- Central Washington University
- NOAA Fisheries
- Yakima Basin Environmental Education Program



# Strategies to further YSC work

- Complete Habitat Conservation Now, Avoid Lost Opportunities and Increased Costs.
  - Utilize BPA habitat acquisition funds and leverage matching funds (SFRB, MCRFEG, WWRP, other).
- Expand landowner outreach and support.
- Continue coordination and partnerships with agencies and organizations.
- Work with local governments to implement incentive-based habitat protection programs.

Community  
Pride



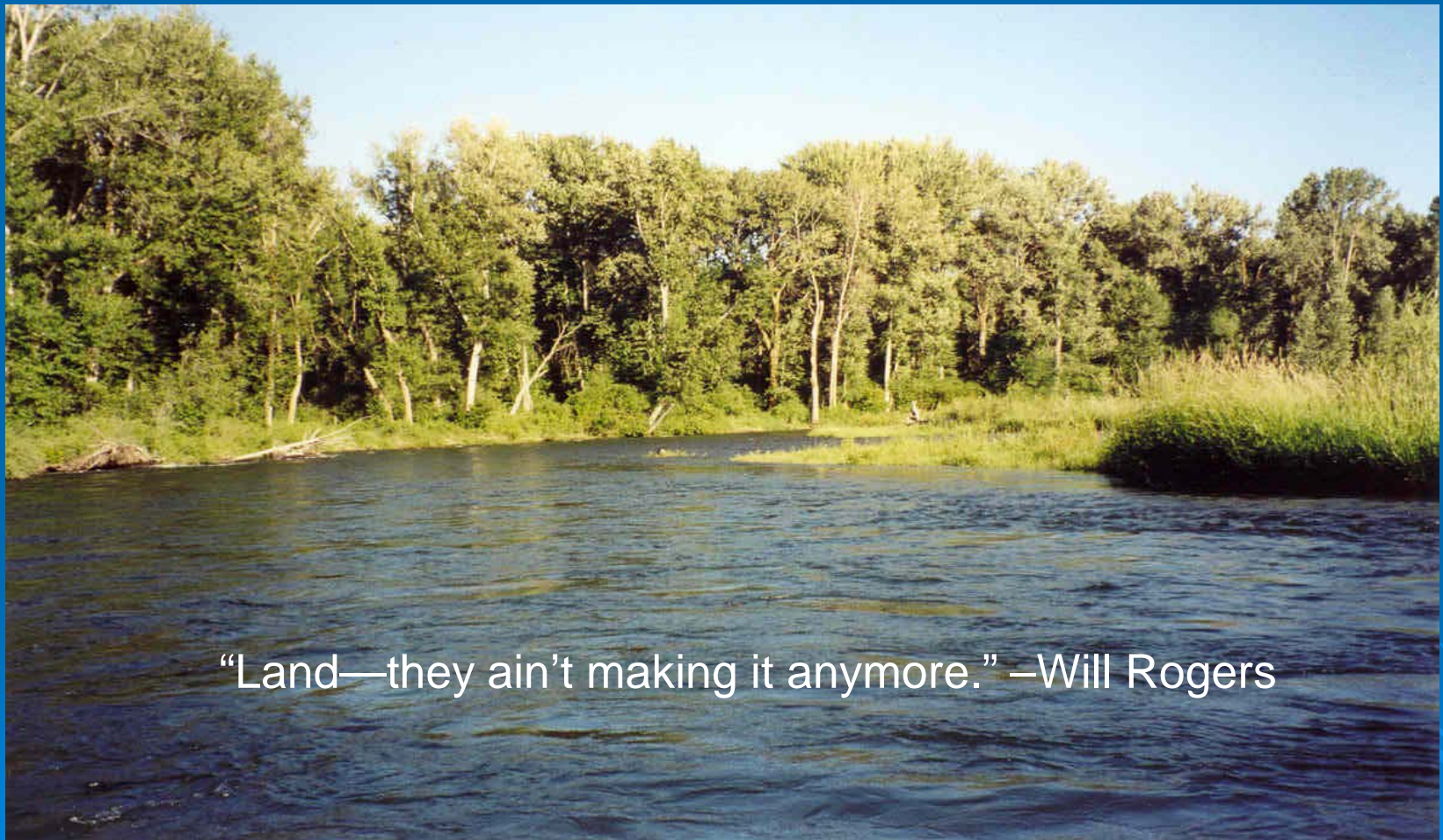
&



Salmon  
success



# Habitat Protection = Long Term Viability



“Land—they ain’t making it anymore.” –Will Rogers

Yakima Side Channels